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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,298

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Virginie Studer

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SOFER & HAROUN LLP.

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EXAMINER

GILLESPIE, BENJAMIN

ART UNIT

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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,298	Applicant(s) STUDER ET AL.	
	Examiner BENJAMIN J. GILLESPIE	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

1. Claims 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language “semiaromatic” renders claim 16 indefinite because it is a relative term.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11-13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Robertson (‘194). Robertson teaches a self-lubricating polyurethane coating composition comprising the reaction product of A) modified polyisocyanate, and B) base polymer, wherein the resulting coating preferably has superior abrasion resistance (Abstract; col 12 lines 12-16, 26-31). In particular A) is the reaction product of polyisocyanates, such as isocyanurate, and/or biurets and mono-functional fatty alcohols/amines having 10-40 aliphatic carbon atom chains, and B) consists of polyesters and/or polyurethanes. (Col 2 lines 16-25; col 5 lines 27-29, 45; col 6 lines 3-6, 31-65). Finally, patentees explain that an additional isocyanate-reactive compound may be present which reacts between free isocyanate in the composition, wherein said addition isocyanate-reactive compound consists of diols and diamines (Col 10 lines 50-52).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Robertson ('194). Aforementioned Robertson teaches a self-lubricating polyurethane coating composition comprising the reaction product of A) modified polyisocyanate, and B) base polymer, wherein additional di-functional chain-extending compound may be added consisting of diols and/or diamines, however patentees fail to explicitly teach the additional of diisocyanate, which has not been modified with any mono-functional fatty alcohols/amines.
5. Nevertheless it would have been obvious to add in additional pure diisocyanate monomer based on the disclosure of Robertson on column 11 lines 49-55, which teaches that although diol and diamine act as the chain-extenders, free diisocyanate may also act as a chain-extender, causing cross-links between isocyanate reactive species. Therefore it would have been obvious

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to add in additional diisocyanate monomer based on the motivation that Robertson discloses it as suitable compound for additional chain-extending in the polyurethane composition and it is prima facie obvious to add a known ingredient for its known function; *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244. Furthermore, it would have been obvious to combine the additional diisocyanate monomer with the A) compounds, not B), since said monomers contain free NCO groups and would react with any free hydroxyl and/or amino groups; the separation of monomer with B) prevents any premature chain extending.

6. Claims 14, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Robertson ('194) in view of Miyake et al (EP 072,178). Aforementioned, Robertson teaches a self-lubricating polyurethane coating composition comprising the reaction product of A) modified isocyanate compound and B) isocyanate-reactive base polymer, wherein A) is the reaction product of polyisocyanate and mono-functional aliphatic compounds having 10 or more carbon atom chains, and B) is based on polyurethane and/or polyester resin. Robertson fails however to disclose a B) component that consists of polyamide-imide or an enameled electrical conductor comprising the self-lubricating polyurethane.

7. Miyake et al teach a process for preparing a self-lubricating polyurethane comprising the reaction product of a A) modified isocyanate compound and B) isocyanate-reactive base polymer, with the resulting polyurethane being useful as insulatory varnish in enameled electrical conductors (Abstract; page 6). In particular, patentees explain that the A) is the reaction of a polyisocyanate and a mono-functional active hydrogen alkyl compound in the presence of solvent, preferably having more than 21 carbon atoms, wherein the active hydrogen compound consists of hydroxyl, amine, carboxyl, and/or anhydrides (Col 9 lines 20-25; col 10

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lines 1-13; col 11 lines 9-25; col 12 lines 1-7, 15-17, examples 1-3). Regarding component B), patentees teach that selection of materials is based on, among other characteristics, the final coatings ability to withstand mechanical abrasion, and the preferred polymers for component B) consist of polyesters and/or polyamide-imides (Page 1 lines 7-10, 14-16; page 9 lines 14-18).

8. Therefore, it would have been obvious to include polyamide-imides in component B) of Robertson, because Miyake et al teach that in addition to polyesters, polyamide-imides are useful in self-lubricating coating compositions that exhibit superior mechanical abrasion resistance, a property that is required in Robertson. Additionally, Miyake et al also teach that the resulting coating composition is also useful in providing an insulating varnish for electrical wires. Consequently, it would have been obvious to utilize the composition of Robertson as an insulatory coating in electrical applications based on the motivation that both Robertson and Miyake et al teach self-lubricating coatings based on modified polyisocyanate and polyester backbone, and in obviousness rejections based on close similarity in chemical structure, the necessary motivation to make a claimed compound and thus the prima facie case of obviousness, rises from the expectation that compounds similar in structure will have similar properties. *In re Gyrulik*, 596 F. 2d 1012, 201 USPQ 552 (CCPA 1979).

9. Claims 14, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Robertson ('194) in view of Miyake et al (EP 072,178) in further view of Dunwald et al ('095). As previously discussed, Robertson in view of Miyake et al render obvious a self lubricating coating composition comprising the reaction product of modified polyisocyanate and polyamide-imide, wherein said coating is useful in electronic wire applications. In order to further reinforce that it would have been obvious to include polyamide-imide polymers in the

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coating composition of Robertson, applicants should note that Dunwald et al teach coating compositions that are based on polymers containing hydroxyl, carboxylic acid, amino groups as well as isocyanurate compounds, and said coatings exhibit lubricative as well as insulatory properties.

10. Furthermore, Dunwald et al teach that it is preferred to use polyamide-imide based polymers because the resulting coating exhibits resistance to hydrolysis, high temperature burn out, improved flexibility, and the presence of the amide-imide increases “sliding” within the wire, which is taken to enhance the lubricative properties of the coating composition (Col 1 lines 23-30; col 2 lines 23-39). As a result, one of ordinary skill in the art at the time of the invention would have found it obvious to include polyamide-imide polymers in Robertson based on the disclosure of Dunwald et al that explains amide-imide polymers provide coatings that have improved mechanical properties, as well as enhanced lubricity.

Response to Arguments

11. Applicants’ arguments filed 2/7/2008 with respect to the rejection of the language “solderable” has been considered and is persuasive, the rejection has been removed.

Additionally, the examiner would like to point out while the prior art does not necessarily describe the polymers as “solderable,” the examiner takes the position that the relied upon polymers inherently satisfy the claimed limitation to the extent that they are only required to consist of polyurethanes, polyesters-imides, etc.

12. Applicants arguments filed 2/7/2008 with respect to the rejection of claim 16 under 35 U.S.C. 112 2nd paragraph have been fully considered but they are not persuasive. Applicants argue the language “semiaromatic” does not render the claim indefinite because it is understood

within the art; however the examiner maintains his position. The prefix "semi" renders the claim indefinite because it is not clear what content of aromatic groups would satisfy the claimed limitation, i.e. 1 or 300 aromatic groups.

13. Applicant's arguments filed 2/7/2008 have been fully considered but they are not persuasive. Applicants argue

- a. Claims 11-13, 15 are not anticipated by Robertson ('194),
- b. Claim 18 is patentable over Robertson,
- c. Claims 14, 16, 17, 19 are patentable over Robertson in view of Miyake et al (EP 072,178), and
- d. Claims 14, 16, 17, and 19 are patentable over Robertson in view of Miyake et al in further view of Dunwald et al ('095)

Because Robertson fails to specify the reaction between tri-functional polyisocyanate and the terminal functional groups of the aliphatic pendant chains, nor does patentee teach said reaction in the presence of solvent or a "stirring" and "heating" step.

14. In response the examiner redirects applicants' attention to column 2 lines 25-32, which states the hydroxyl/amine functional pendant chains react with free isocyanate groups, wherein said isocyanate groups are preferably derived from isocyanurate, or biuret compounds, i.e. tri-functional polyisocyanates (Col 6 lines 3-7). Furthermore, Robertson clearly explains the pendant chains are **mixed** with polyisocyanate, prior to being combined with the "B" component, which is taken to satisfy the claimed "stirring" limitation, and the polyisocyanate and pendant chain "prereact," thereby creating the claimed modified polyisocyanate.

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15. Regarding the claimed solvent and heating limitations, while it is noted that solvent is not required, column 13 lines 29-30 clearly teaches that solvent may be present when mixing the polyisocyanate and pendant chains, and column 13 lines 24-27 teach the A and B components are mixed at a temperature between 20°C and 30°C, which is taken to satisfy a “heating” step (Col 13 lines 24-27).

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

17. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rabon Sergent/
Primary Examiner, Art Unit 1796

B. Gillespie